



Case Study

Twisted pedunculated subserosal uterine leiomyoma, a rare disease

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This case report is about the surgical treatment of a patient with twisted pedunculated subserosal uterine fibroid. A patient in reproductive age visited our emergency department with acute abdominal pain. Mostly physical examination and laboratory tests and less abdominal ultrasonography put the suspicion of a twisted adnexal mass and the patient underwent emergency laparotomy. Intraoperative, a solid pedunculated subserosal uterine mass with total necrosis was found and excision of the necrotic tissue was performed. Histological examination of the surgical specimen confirmed the diagnosis of twisted pedunculated subserosal uterine fibroid. After a 5 day hospitalization and a smooth postoperative course the patient was discharged of our clinic. In this paper a literature review of the diagnosis and treatment of this rare disease based on current data is discussed.

Key words: Subserosal fibroid, twisted, diagnosis, treatment.

INTRODUCTION

Uterine fibroids are the most common benign neoplasm of the uterus. They appear usually to women of reproductive age and it is estimated that they occur to around 70% of the general population (Karmon et al., 2014). They are consisted primary by smooth muscle fibers interlaced with branches of connective tissue, depending in the amount of which inside the tumor they are divided in leiomyomas and fibroids (Hildreth et al., 2009). Uterine fibroids are common. Recently in 2015, during the analysis of their research in Canada, Vilos et al discovered that fibromas affect 70% of women at the age of 50. The same authors published that 20 – 50% of the cases uterine fibromas are symptomatic and have a significant financial and social effect at the general population (Vilos et al., 2015). Uterine fibromas are possible to present with many symptoms, including abnormal uterine bleeding, pelvic pain, malfunction of the uterine and the gastrointestinal system, miscarriage, which are the most common indications for performing a hysterectomy at the USA (Moravek et al., 2015). Recently in 2015, Commandeur et al. found that the possibility of developing a uterine fibroid throughout the lifespan of a patient is bigger than 75% (Commandeur et al., 2015). Moreover, Voorhis at 2006 published that uterine

fibromas are detected via ultrasonography at 35% of the Caucasians and 50% of the black skinned women (Voorhis, 2009). Depending on the anatomical position and its relationship with the uterus body, fibroids are divided into three groups, the subserosal fibroids, the pedunculated submucosal fibroids and the intramural fibroids. A significant increase in the size of subserosal and submucosal fibroids contributes to the increase of pedunculated uterine fibroids (Fernandez, 2014).

This work will aim to present a rare case and a quick review of twisted pedunculated subserosal uterine fibroid based on the systematic demonstration and analysis of the current scientific data, especially about the diagnostic and the therapeutic approach.

CASE REPORT

This case is about a patient of the reproductive age of 29 years old, who presented to the Emergency Department of our general hospital in Trikala, Greece with abdominal pain that began a week before. The pain was detected in the lower abdomen, especially in the right iliac fossa. The



Figure 1: Intraoperative image of pedunculated subserosal uterine leiomyoma (our case).



Figure 2: Surgical specimen of pedunculated subserosal uterine leiomyoma (our case).

intensity of the pain was described significantly worse during the last 24 hours, and was accompanied by vomiting and fever that reached 38.3° C. From the patient's medical history, a psychiatric disease was described, for which the patient was under medication. The patient was not sexually active. The family history had no significant diseases. During the clinical examination revealed tenderness at the lower abdomen, with signs of peritoneal irritation. Transabdominal ultrasonography was not diagnostic. Transvaginal ultrasonography was not possible. Emergency laboratory evaluation revealed Ht 31.7%, Hb 10.6 gr/dl, PLT 250x10³/ml, WBC 16.27x10³/ml, NEUT 87.8%, CRP 18.08 mg/dl. Pregnancy test was negative. Biochemical evaluation and urine analysis showed no abnormalities.

Based mainly on the clinical and laboratory evaluation of

the patient, and less on the transabdominal ultrasound, we suspected the presence of a twisted adnexal mass and the patient underwent emergency laparotomy. During the operation after cutting through the abdominal wall and the peritoneum with vertical sub - umbilical incision, the presence of a twisted solid pedunculated mass on the uterus was detected, without the presence of adhesions with the surrounding tissue, that showed signs of total necrosis and had maximum diameter of 10 centimeters. (Figure 1). Surgical excision of the necrotic tumor was performed (Figure 2). The histological examination of the tissue confirmed the diagnosis of the twisted pedunculated subserosal uterine fibroid (Figure 3). After 5 days of hospitalization and uncomplicated post-operative status the patient was discharged from our clinic with the

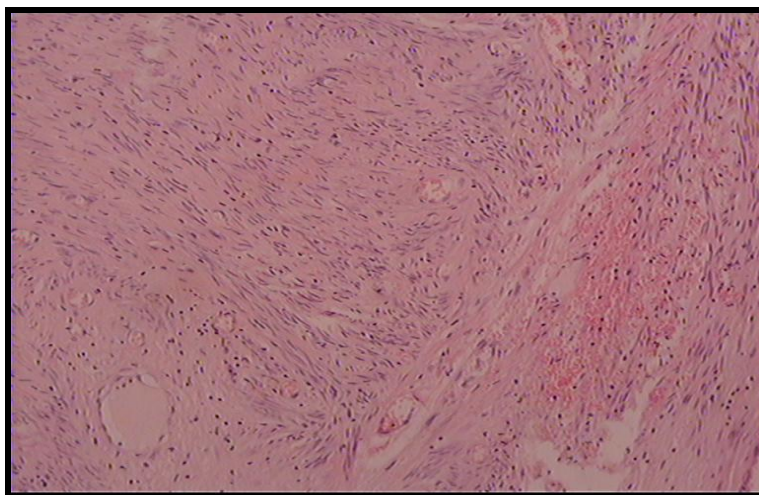


Figure 3: Histological image of pedunculated subserosal uterine leiomyoma (our case).

recommendation of follow up at the out – patient clinic.

DISCUSSION

Clinical diagnosis of pedunculated subserosal uterus fibromas is usually very difficult. In most of the cases there are no symptoms. The most common symptoms of leiomyomas are abnormal vaginal bleeding or pelvic discomfort. Acute abdominal pain is not a common symptom. The presence of acute abdomen is related to complications of leiomyomas such as cystic degeneration of the mass, inflammation, uterine torsion due to a pedunculated submucous fibroma protruding through external os, pressure effect of the leiomyoma between uterus and sacrum or torsion of a pedunculated subserosal uterine leiomyoma (our case) (Gaym and Tilahun, 2007).

Torsion of pedunculated subserous uterine fibroids is a rare cause of acute abdomen in gynecology and in the same time it is an obstacle in differential diagnosis of circumstances that cause generalized peritonitis (Foissac et al., 2011). Moreover, differential diagnosis of twisted subserous uterine fibroid of twisted adnexa is necessary. Ovarian torsion is a significant cause of acute abdominal pain localized in lower abdomen and it is an emergency condition in gynecology that requires surgical treatment. In some cases and under some special circumstances, practitioners can misdiagnose it such as in cases of a silent intermittent adnexal torsion. Although there is no any special incident, ovarian torsion should always be considered in every patient with abdominal pain and pelvic mass (Lin et al., 2006). Also, uterine torsion, an extremely rare condition, should be considered in the differential diagnosis of acute abdomen in gynecology. In 2003, Varras et al described a case of acute urinary retention after the torsion of a non pregnant fibromatous uterus to a patient

with muscle dystrophy (Varras et al., 2003). Finally, a large pedunculated uterine fibroid with extensive cystic degeneration may mimic a primary malignant ovarian tumour on sonography and CT (Aydin et al., 2013; Hacivelioglu and Erkanli, 2014). Malignant ovarian tumours and ovarian fibroids are the most important diseases that must be included in differential diagnosis of pedunculated subserosal uterine fibroids, especially when it is about the torsion of a pedicle (Cho et al., 2013).

Unlike clinical examination, the contribution of imaging methods to the diagnosis of pedunculated subserous uterine fibroids seems to be more decisive. Computed tomography (CT) can show a bulky solid mass upward on the urinary bladder which is in contact with uterus and ovaries. In some cases, magnetic resonance imaging (MRI) can show the pedicle which connects the uterus with the mass that seems as necrotic leiomyoma (Marcotte – Bloch et al., 2007). Furthermore, abdominal sonography can show multiple uterine masses such as a pedunculated mass and contribute to the preoperative diagnosis of twisted pedunculated subserosal uterine leiomyoma (Tsai et al., 2006).

Treatment of twisted pedunculated subserosal uterine fibroid is surgical. For management, myomectomy is the treatment of choice for pedunculated subserosal fibroids in fertile women and may be performed by laparoscopy or laparotomy (our case). In general, laparoscopic or laparotomic myomectomy or hysterectomy depending on patients' age and their general condition seems to be the most effective treatment methods. Histopathological specimen examination is necessary to confirm the diagnosis. Indications of myomectomy during pregnancy include acute abdominal pain due to the torsion of pedunculated subserous uterine leiomyoma or cystic degeneration of the mass that is not corresponding to the conservative drug treatment or the progressively

increasing of leiomyoma's size which causes abdominal discomfort (Bonito et al., 2007; Agdi and Tulandi, 2010). In cases of uterine torsion, total hysterectomy with bilateral salpingo oophorectomy is necessary (Nikolov et al., 2006). In most cases, prognosis is very good. Generally, uterine leiomyomas have low risk to malignancies with the fibroid insight into malignant progression approximately 0.2% (Thomason, 2008).

Conclusion

Ischemic necrosis or torsion of pedunculated subserosal uterine fibroids is extremely rare to occur. Despite its rarity, torsion of these fibroids should always be considered in differential diagnosis of patients with acute abdomen and pelvic mass. Early recognition of the symptoms as well as the right use of advanced technological methods allow timely diagnosis and the most suitable treatment method is reiterated. In this way, best treatment method and reduction of the morbidity is secured.

Conflict of interest

No conflict of interest exists in the submission of this manuscript.

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